AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for measuring a differential mode delay (DMD) of a multimode optical fiber comprising:

monitoring a temperature of the multimode optical fiber, during a measurement time of the DMD of the optical fiber;

measuring a change of temperature of the optical fiber during the measurement time; and

controlling the temperature of the optical fiber such that, during the measurement time, ΔT_{max}, which is an absolute value of a maximum ~~the~~ change of temperature of the optical fiber ~~is maintained within a predetermined range during the measurement time~~ satisfies:

$$\Delta T_{max} \leq \frac{0.05 \cdot c \cdot DMD_{min}}{\beta + \alpha \cdot n}$$

wherein α is a linear expansion index of the optical fiber, β is a refractive index temperature index of the optical fiber, n is a refractive index of the optical fiber, c is the speed of light in a vacuum, and DMD_{min} is DMD of the fiber.

2. (currently amended): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the change of temperature ~~predetermined range is calculated such that a product of the measurement time and a rate of temperature change during the measurement of the DMD~~ of the optical fiber is 0.4°C or less.

3. (currently amended): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the ~~predetermined range is calculated such that a product of the measurement time and a rate of temperature change during the measurement of the DMD~~ change of temperature of the optical fiber is 0.3°C or less.

4. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the predetermined range is calculated such that a rate of temperature change of the ambient environment is controlled to ±1.0°C/hour or less.

5. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the measurement time is not more than 10 minutes.

6. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the measurement time is not more than 3 minutes.

7. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the predetermined range is calculated such that a rate of temperature change of the ambient environment is controlled to ±1.0°C/hour or less and the measurement time is not more than 10 minutes.

8. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, further comprising:

prior to the measurement time of the DMD of the optical fiber, placing the optical fiber in a measurement environment until the temperature of the optical fiber substantially equals a temperature of the measurement environment.

9. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the measurement time is not more than 5 minutes.

10. (previously presented): The method for measuring a differential mode delay (DMD) of a multimode optical fiber according to claim 1, wherein the predetermined range is calculated such that a rate of temperature change of the ambient environment is controlled to ±5.0°C/hour or less